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2006 Undergraduate Essay Winning Article

The acute management of dental trauma in children, and its relationship to long term prognosis

Benjamin Clothier
4th year dental student, University of Adelaide

Introduction

Trauma is one of the most common reasons for the presentation of young children to dental surgeries (Cameron et al, 2003). Knowledge and skills in trauma management (both acute and long-term) are therefore essential attributes for the dentist. The prognosis for child victims of dental trauma is variable and is determined by a number of factors including the type of injury sustained and the way in which the injury is managed, as well as the individual's cellular and tissue response.

Luxation injuries, where teeth are displaced in the alveolar bone, represent the most common category of paediatric dental trauma *(Cameron et al, 2003)*. Other types of dental trauma include crown/root fractures, dento-alveolar fractures and jaw fractures, while closed head injuries and fractures of other facial bones tend to delve into the realm of the medical practitioner or dental specialist. Soft tissue injuries such as lacerations, abrasions, contusions and degloving injuries can also occur as a result of dental trauma.

Acute management of dental trauma in children

An important aspect of the acute management of dental trauma is the information gathering phase. A quick but thorough history, examination, and further investigations such as radiographs and pulp tests are essential in establishing an accurate diagnosis (*Bakland & Andreasen, 2004)*. This information subsequently provides the basis for the treatment plan. Histories, examinations and radiographs should be considered part of the management of all injuries listed herein even where not otherwise mentioned. Also, where teeth are said to be repositioned and splinted it should be assumed that a peri-apical radiograph has been taken and the occlusion checked to ensure correct repositioning.

Acute management of dental trauma in the primary dentition

The primary and permanent dentitions demonstrate a similar capacity for pulpal and periodontal healing subsequent to trauma *(Andreasen et al, 2003)*, however treatment of dental trauma to the primary dentition differs in some instances due to the presence of permanent successor teeth. For example, avulsed deciduous teeth are not replanted and root canal fillings are rarely warranted *(Holan, 2006)*.

Accurate prediction of the prognosis for successor teeth following trauma to primary teeth is not always possible. The prognosis depends on the direction and displacement of the primary root apex, the degree of alveolar damage, and the stage of formation of the permanent tooth. Nonetheless, it is always desirable to discuss the possible sequelae with parents so they are aware of the possible outcomes *(Cameron et al, 2003)*.

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President's Report

Asking the right questions

Did the Earth move for you? No, me either.

When the IARC declared that formaldehyde was a known human carcinogen, and no longer just a possible human carcinogen, I shrugged. That was exactly what I had thought for more than twenty years. I certainly didn't go and throw out my bottle of formocresol. Sure there are alternatives out there, but nothing has the long term track record of clinical safety and efficacy enjoyed by formocresol. In fact, there are very few other procedures in dentistry that can, like formocresol claim close to 100% clinical success over the life time of a tooth. All right, I'll admit that the ten year lifespan of a primary molar isn't that long, but it's a darn site longer than the one to three year published studies which claim to "prove" the equivalence of the alternatives to formocresol.

Yes. I am being provocative. I'm sure that none of us would deliberately expose a child to a known human carcinogen for therapeutic purposes. So long as we don't count x-rays, because of course they're essential to our diagnosis. Preoperative radiographic examination is essential to the diagnostic process required for successful endodontic management. We don't want to count ethanol either, because even though ethanol has been a known human carcinogen for much longer than formaldehyde, it is an essential component of many bonding systems used to attach composite resin to dentine, and of many of the liquid medicines and therapeutics we prescribe to children, not to mention a really useful surgery disinfectant.

Are we all so reckless? No, of course not. We recognise that there is a difference between an agent being a carcinogen, and that same agent being carcinogenic the way we use it. The science of pharmacology is an important part our basic training. Although I was one of many who at the time, grumbled with my friends about tedious lectures and the perceived lack of utility pharmacology, I'm glad that it was a compulsory part of the curriculum. Even a cursory study of the absorption, distribution, metabolism and excretion of a chemical will reveal that the same chemical can produce vastly different effects depending on the route of administration, the chronicity of administration, and the dose. Understanding pharmacology can help us to put the formocresol question into perspective.

Formaldehyde is ubiquitous in our environment. Although industrial production of formaldehyde is in the order of kilotonnes per year, the majority of formaldehyde in our environment is created by natural processes such as fires. Despite the huge quantity of formaldehyde produced each year for the manufacture of disinfectants, fumigants, preservatives, embalming fluids, resins, wrinkle-proof fabrics, rubber goods, latex paints, dyes, plastics, paper products, particle board, and cosmetics, it does not accumulate in the environment. It is highly reactive and breaks down as fast as it is produced.

Formaldehyde is also an endogenous intermediate metabolite in single carbon chemistry found in all body fluids. It serves as a building block for the synthesis of purines, pyrimidines, many amino acids, lipids, and is a key molecule in one-carbon metabolism. The concentration of endogenous formaldehyde in human blood is about two to three micrograms per litre. This concentration is unaffected by acute exposure to formaldehyde. Formaldehyde does not bioaccumulate.

The metabolic half life of formaldehyde is one to two minutes. While formaldehyde can be labelled with C14 or H3 it rapidly breaks down in vivo giving rise to labelled metabolites, mainly carbon dioxide and water. This rapid breakdown makes it difficult to track formaldehyde within the body, and complicates the interpretation of studies measuring the absorption and distribution of formaldehyde, particularly those studies suggesting that formaldehyde concentrates in vital body organs. It is likely that innocuous, but radioactively labelled metabolites are being measured rather than formaldehyde.

Published occupational health and safety limits for exposure to formaldehyde support the position that acute exposure to formaldehyde is unlikely to produce lasting adverse effects, whereas chronic exposure to formaldehyde has significant adverse effects including the development of nasopharyngeal carcinoma. Further examination of occupational health and safety literature reveals some uncomfortable issues for the proponents of alternative medicaments. Ferric sulphate for example, is known to decompose to sulphuric acid, and its product literature warns that we should avoid exposure to skin and mucous membrane. MTA is chemically identical to Portland cement which bears a similar warning. It is worth noting that MTA contains traces of silica, which is also a known human carcinogen.

So should we be joining the rush to abandon a proven, effective technique and find another chemical to wipe on to the pulp stumps of deciduous teeth? The Cochrane collaboration reports that Formocresol, Electrofulguration, MTA, and Ferric Sulphate have equivalent success rates for pulpotomy in deciduous teeth. There is however a recognised paucity of suitable studies for inclusion in the meta analysis. Those which are available have small sample sizes. These are the very conditions in which meta analysis loses power, and can fail to detect real differences. Furthermore, the available

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studies are all very short term, ranging from one to three years. We don't know yet if the long term results hold up. If the authors of this Cochrane review recognise the evidence to be so poor, why do we give it so much weight?

In fact, are we even asking the right questions?

- Our understanding of the caries process, and the newer diagnostic techniques available should allow us to intervene in the caries process long before there is a carious pulp exposure to deal with. Why are we 'missing the boat' so often?
- We are trying to 'reverse' the reversible pulpitis with our pulpotomy technique, so why are we putting eugenol containing cements such as ZOE and IRM which are known to 'provoke' chronic inflammation, directly in contact with the amputated pulp?
- What is the biological rationale for placing a haemostatic agent on the pulp after we have achieved haemostasis? How do we want our medicaments to modulate the biologic response of the pulp to the caries process and subsequent surgical amputation?
- Why do we have to remove so much pulp anyway? Why does direct pulp capping have such a poor prognosis in primary teeth when it has such a good prognosis in permanent teeth?
- Why do so many of our colleagues not understand the futility of ignoring the well documented clinical contraindications for pulpotomy, and persist in vainly sloshing formocresol around inside necrotic teeth, when they should be explaining the hard facts about extraction of deciduous teeth?

We must not abandon our clinical judgement and allow ourselves to acquiesce passively to new techniques on the basis of incomplete evidence and when there is no real claim of superior outcome. For formocresol, there is no 'smoking gun'. I am sure that our new Editor would be only too pleased to publish any correspondence on this matter.

Farewell and Welcome

I would like to farewell Dr Karen Kan, and formally thank her for her hard work, diligence, and valuable contribution to the Australian and New Zealand Society of Paediatric Dentistry as the editor of Synopses for the last four years.

I would also like to welcome Dr Dorothy Boyd and thank her for agreeing to take over this sometimes onerous role for the benefit of all members. I look forward her trans-Tasman perspective, which I'm sure will benefit those of us living on the 'Western-Islands'.

Synopses is *OUR* newsletter. I encourage you to share your experiences and case reports with your colleagues. I would like to publicly request that those involved with dental education, particularly postgraduate dental education in paediatric dentistry, encourage their students to share worthwhile literature reviews and case reports with our members, as this sharing of knowledge will ultimately be to the benefit of the children we serve.

15th Biennial Convention

By now the 'early bird' registration will have closed for the ANZSPD Biennial Convention in Broome. Don't let that deter you. The scientific program at the Broome meeting has been structured to provide in depth coverage of current and emerging issues, but just as importantly, the social program has been designed to rejuvenate. Take a week off. Immerse yourself in the Broome experience. I look forward to sharing a drink and watching the sun set over Cable Beach with you all in Broome.

John Winters

Note from Editor

It is with enthusiasm and trepidation that I begin this role as editor for Synopses! I am grateful to Karen Kan for all her help and advice with preparing this issue's material, and to John Winters for his welcome and support. I look forward to the support of the membership with submissions of material for the next issue of Synopses, and thank those of you who have already provided some.

Dorothy Boyd

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Tooth Fractures

Uncomplicated Crown Fracture

Following uncomplicated crown fractures (i.e. those not involving the pulp), the enamel and dentine should be smoothed and exposed dentine should be sealed. Some teeth undergo pulp necrosis and grey discolouration following uncomplicated crown fractures, and other teeth have a good prognosis *(Andreasen et al, 2003; Cameron et al, 2003).*

Complicated Crown Fracture

Primary teeth with pulp exposures caused by trauma are usually extracted. However, Andreasen *et al* (2003) suggest that pulp capping or pulpotomy may be performed. If performed correctly, these procedures are usually quite successful, with only a small minority of teeth undergoing pulp canal obliteration or pulp necrosis.

Crown/Root Fracture

Often, fractures in the primary dentition involve the pulp and extend below the gingival margin. Primary teeth affected by crown/root fractures (even if uncomplicated) are not able to be effectively restored and should be extracted (Andreasen et al, 2003; Cameron et al, 2003).

Root Fracture

The coronal fragment may be repositioned without splinting after root fracture in the primary dentition. If the pulp dies the coronal fragment should be extracted and the apical fragment left to physiologically resorb as the successor tooth erupts *(Andreasen et al, 2003; Cameron et al, 2003).*

Luxation Injuries

Concussion and Subluxation

Andreasen *et al* (2003) recommend observation as the acute management strategy for concussion and subluxation injuries in the primary dentition. Pulp healing is frequent after concussion and subluxation. However, there is a 25% chance that the permanent dentition will be developmentally disturbed by subluxation *(Andreasen et al, 2003).*

Lateral Luxation

If the lateral luxation does not cause occlusal interference no invasive treatment is necessary and the tooth should reposition itself over time. However if occlusion is affected or if the primary tooth is impinging on the developing permanent tooth germ extraction is indicated *(Andreasen et al, 2003).* Pulpal healing after lateral luxation is dependent on the stage of root development. Pulp canal obliteration is common, and pulp survival and necrosis occur in approximately 30% and 27% of cases respectively.

Extrusive Luxation

This injury usually warrants extraction of the affected tooth or teeth. Andreasen *et al* (2003) state that careful repositioning may sometimes be considered, however in doing this there is the inherent risk of damaging the permanent tooth germ. Pulp canal obliteration is seen in 70% of cases, while pulp necrosis is seen in the remaining 30%. Developmental disturbances occur to the successor tooth in almost 35% of cases *(Andreasen et al, 2003).*

Intrusive Luxation

Andreasen *et al* (2003) recommend no invasive treatment unless the primary tooth is intruded directly into the developing tooth germ, in which case extraction is indicated. Cameron et al (2003) recommend extraction if the whole tooth is intruded, if the apex has perforated the labial bony plate, or if there are significant associated injuries to the gingivae or alveolar bone. Pulp necrosis or pulp canal obliteration are frequent sequelae to intrusive luxation of a primary tooth, however there is pulp survival in 25% of intruded primary teeth. Almost 70% of these intrusions result in developmental disturbance of the permanent successor.

Avulsion

Avulsed primary teeth should not be replanted, and a periapical radiograph is recommended to ensure the tooth has not been intruded (Andreasen et al, 2003; Cameron *et al,* 2003). Over 50% of primary dentition avulsions result in developmental disturbance of the permanent successor.

Dento-Alveolar Fracture

The displaced alveolar bone fragment should be repositioned and the teeth involved splinted with a flexible/non-rigid splint. Developmental disturbance of the permanent successor occurs in over 70% of dento-alveolar fractures (Andreasen et al, 2003).

Acute management of dental trauma in the permanent dentition

Tooth Fractures

Uncomplicated Crown Fracture

For enamel-only fractures smoothing with a disc may be all that is required, otherwise resin composite is a good restorative in this instance. For fractures involving dentine, the dentine should be sealed with glass ionomer cement and the tooth morphology restored with resin composite. Alternatively the tooth fragment may be bonded back onto the rest of the tooth with resin composite adhesion systems *(Murchison et al, 1999; Andreasen et al, 2003).*

The prognosis for teeth following uncomplicated crown fractures is very good, with virtually 100% maintaining pulpal and periodontal ligament vitality (Robertson et al, 2000). Only a very small minority undergo pulp canal obliteration and/or surface resorption *(Andreasen et al, 2003).*

Complicated Crown Fracture

The management strategies for teeth with complicated crown fractures are influenced by the amount of time since the injury and the stage of root development. Pulp necrosis is inevitable if no treatment is provided. Small pulp exposures in mature teeth may be treated with direct pulp capping, whereas a Cvek (partial) pulpotomy is often an appropriate treatment for immature permanent teeth, as it usually enables apexogenesis to continue. The Cvek pulpotomy may also be used to maintain vitality in teeth with mature apices. For the immature tooth with a necrotic pulp apexification via Calcium Hydroxide should be attempted. For the mature tooth that requires a post/core build-up it may be desirable to extirpate the pulp and root-fill the tooth *(Cameron et al, 2003).*

The prognosis in terms of pulp survival following pulp capping or partial pulpotomy is very good provided case selection is appropriate subsequent to complicated crown fracture. Partial pulpotomy has a better success rate

than pulp capping for immature teeth *(Andreasen et al, 2003)*.

Uncomplicated Crown/Root Fracture

Cameron *et al* (2003) recommend that for teeth where the fracture extends just below the gingival margin, the dentine should be initially sealed with glass ionomer cement and then restored with composite resin or a crown. This is in keeping with Andreasen *et al's* (2003, p.33) recommendations that the main treatment principles are to seal exposed dentine, protect the pulp, and "create a situation where the tooth can be restored after removal of the coronal fragment". The prognosis for these teeth is generally quite good as long as restorative care is of good quality.

Complicated Crown/Root Fracture

Complicated crown/root fractures predominantly affect mature teeth *(Cameron et al, 2003)*. However, if an immature tooth is affected by this injury then the main goal of treatment is to either maintain vitality to allow full root development or, if the pulp becomes necrotic, attempt apexification (as described above for complicated crown fractures). The prognosis is poor for immature teeth in which the complex fracture extends below the crestal bone *(Cameron et al, 2003)*.

For mature teeth, if the fracture extends below the crestal bone, the coronal tooth fragments should be removed (if still present) and the pulp extirpated. The canal(s) should then be medicated with calcium hydroxide or Ledermix® paste and the canal orifice sealed *(Cameron et al, 2003)*. In cases where the fracture does not extend below the crestal bone a Cvek pulpotomy may be performed. Similarly to immature teeth, the prognosis for mature teeth following complicated crown/root fracture is poor *(Cameron et al, 2003)*.

Andreasen *et al* (2003) recommend extraction of teeth that sustain fractures extending so deep below the gingival margin that the crown-root ratio does not allow a crown restoration (even following orthodontic extrusion).

Root Fracture

Andreasen *et al* (2003) state that accurate repositioning of the coronal segment aids healing following root fracture. Cameron *et al* (2003) recommend taking radiographs at several vertical angulations to determine the extent of the fracture prior to repositioning and rigidly splinting the coronal fragment. The splint should remain in place for at least three months if the coronal fragment is mobile. If the root fracture is close to the apex then monitoring may be the only 'treatment' necessary.

Pulp necrosis occurs in 25% of teeth following root fracture and is related to the degree of displacement of the fragments. "Progressive inflammatory or replacement resorption is rare" *(Cameron et al, 2003, p.113)*.

Luxation Injuries

Concussion and Subluxation

Minimal intervention is required in most cases. For patient comfort, the affected tooth or teeth may be relieved from occlusion by slightly grinding the antagonist(s) out of occlusion *(Andreasen et al, 2003)*. Splinting is generally not required *(Cameron et al, 2003)*, however it may be done if it improves patient comfort *(Andreasen et al, 2003)*. A soft diet is recommended for two weeks following the injury.

Stage of root development is the major influence upon the good prognosis usually associated with concussion and subluxation. Pulpal and periodontal complications are quite rare in both types of injury, however subluxated teeth have a slightly higher incidence of pulp necrosis *(Andreasen et al, 2003)*.

Lateral Luxation

Laterally luxated teeth require repositioning under local anaesthesia with either finger manipulation or forceps. It is important to ensure the bone is also correctly repositioned and contoured. A non-rigid/flexible splint should then be placed and left on for a minimum of 3-4 weeks but preferably 6-8 weeks to allow healing time for the bone fracture. Additionally, Cameron et al (2003) recommend a course of antibiotics, tetanus prophylaxis, and 0.2% chlorhexidine gluconate mouthrinse if required.

The prognosis for laterally luxated teeth is influenced by the degree of displacement and the maturity of the tooth. Immature teeth with wide open apices tend to heal quite well (albeit often with pulp canal obliteration), whilst there is a high incidence of pulp necrosis in teeth with closed apices *(Andreasen et al, 2003; Nikoui et al, 2003)*. Resorption is rare in immature teeth but surface resorption occurs in up to 35% of teeth with closed apices *(Andreasen et al, 2003)*.

Extrusive Luxation

The extruded tooth should be gently repositioned then splinted with a flexible splint for up to three weeks. Repositioning can often be achieved without the need for local anaesthesia. Gingival lacerations should be sutured and a course of antibiotics, tetanus prophylaxis, and 0.2% chlorhexidine gluconate mouthrinse may be indicated depending on the risk for bacterial invasion *(Cameron et al, 2003; Andreasen et al, 2003)*.

For extruded immature teeth with large apical foramina pulp canal obliteration occurs in over 60% while less than 8% undergo pulp necrosis. For teeth with closed apices there is a high frequency of pulp necrosis (approximately 65%) following extrusion. Severe pathologic root resorption is rare following extrusive luxation, however surface resorption occurs in 15% of mature teeth *(Andreasen et al, 2003; Lee et al, 2003)*.

Intrusive Luxation

It has long been debated whether intruded teeth should be repositioned or allowed to erupt on their own *(Cameron et al, 2003)*. Andreasen *et al* (2003) recommend that for teeth with open apices the intruded tooth should be loosened with forceps to release it from its locked position. Local anaesthesia should be given before commencing the loosening procedure, and only the crown of the tooth should be grasped with forceps. Once loosened from its locked position, the immature intruded tooth should be left to re-erupt if the crown is visible external to the gingival margin. Alternatively the tooth may rapidly be extruded orthodontically.

In teeth with closed apices spontaneous eruption is unreliable following intrusion *(Andreasen et al, 2003)* therefore orthodontic extrusion is the favoured management strategy. To allow access for the bonding of orthodontic brackets, severely intruded teeth may first have to be partially repositioned.

Approximately 63% of immature teeth undergo pulp necrosis as a sequel to

intrusive luxation. Of the remaining 37%, 25% experience pulp canal obliteration and 12% regain pulpal vitality *(Andreasen et al, 2003)*. Pulp necrosis occurs in virtually all mature teeth following intrusive luxation *(Cameron et al, 2003)*.

Immature teeth have approximately a 30% chance of regaining a normal periodontal ligament subsequent to intrusive luxation, whereas in mature teeth this chance is virtually non-existent. Inflammatory root resorption occurs in almost 40% of all intruded teeth, regardless of the degree of root development *(Andreasen et al, 2003)*. There is a higher rate of both replacement resorption and surface resorption in mature teeth. Teeth intruded >6mm have a worse prognosis than teeth intruded <3mm *(Humphrey et al, 2003)*.

Avulsion

The prognosis for replanted avulsed teeth depends mainly on three factors: length of extra-alveolar time; extra-alveolar storage medium, and; stage of root development (patency of apical foramen) *(Andreasen et al, 2003)*. *Cameron et al (2003)* suggest that for children the avulsed tooth should be replanted even if it has had a long extra-alveolar time.

Before replanting the avulsed tooth it is important to ensure that the root surface and the socket are free of contaminants and debris. If necessary the root surface may be very gently cleaned with saline-soaked gauze or irrigated with saline. The socket may also be flushed with saline to remove debris. If a clean blood clot has formed in the socket it need not always be removed as the tooth can be replanted through it. Local anaesthetic should be administered and the tooth should be carefully replanted; it will often 'click' back into place. The tooth should then be splinted with a flexible splint (provided there are no bone or root fractures), which should be left on for 7-10 days *(Cameron et al, 2003)*. Soft tissues should be repositioned and sutured as required, and high-dose, broad spectrum antibiotics should be prescribed.

Tetanus immunisation status should be checked and boosted if necessary and chlorhexidine gluconate 0.2% mouthrinse should be used as part of a strict oral hygiene regime. The patient should maintain a normal diet as "it has been shown that a hard diet resulted in significantly less ankylosis and a higher incidence of normal periodontal ligament compared with a soft diet" *(Abbott, 1999, p.99)*.

For avulsed teeth with open apices, pulpal and periodontal ligament healing can be as high as 60% and ~70% respectively if the tooth is replanted within the first minute *(Andreasen et al, 2003)*. If the tooth is not replanted immediately, the best storage media are pasteurised milk, saline, saliva, or plastic wrap, but not water. Even if the tooth is stored appropriately the prognosis is significantly worsened after 30 minutes. Prognosis decreases dramatically after 15 minutes if the tooth is dry; 50% of periodontal ligament cells die within 30 minutes and none survive more than an hour *(Cameron et al, 2003)*. Teeth with open apices have a better prognosis than those with closed apices.

Dento-Alveolar Fracture

Under local anaesthesia, the alveolar fragment should be repositioned and a rigid splint should be attached to the teeth in the vicinity to stabilise the fracture and enable healing. The splint should be left on for 3-4 weeks *(Andreasen et al, 2003)*. Cameron *et al* (2003) suggest passing a thick nylon suture through the cortical plates in order to reposition the teeth with the bone to maintain the alveolar contour.

Prognostically, pulp necrosis occurs in 75% of mature teeth following dento-alveolar fracture, however pulp canal obliteration and pulp survival are also possible. Root resorption is relatively rare, with most teeth maintaining a normal periodontal ligament *(Andreasen et al, 2003)*.

Acute management of soft tissue injuries following dental trauma

Contusion

Bruising (contusions) of alveolar mucosa and facial skin may often be present without damage to the teeth. Treatment is symptomatic *(Cameron et al, 2003)* but it is important to thoroughly examine the affected tissue and the surrounding tissue (eg. in depths of vestibular sulci) to check for more severe injuries such as deeper wounds or degloving injuries. Child abuse must be considered as a cause until there is evidence suggesting otherwise.

Abrasion

Abrasion wounds should be gently scrubbed with a soft brush and antiseptic solution in order to remove debris. Necrotic tissue tags should be carefully removed with a scalpel *(Cameron et al, 2003)*.

Laceration

As for abrasion injuries, debris should be removed from laceration injuries with a soft brush and antiseptic, and necrotic tissue tags removed with a scalpel. To aid healing and avoid scarring (of skin wounds) deep lacerations must be carefully closed with sutures, ideally within the first 6 hours after injury (Cameron et al, 2003). Prior to suturing the wound must be free of tooth fragments and other debris such as gravel and dirt. Andreasen et al (2003) recommend that penetrating lip lesions warrant a radiographic examination of the regional soft tissue because the orbicularis oris muscle closes tightly around foreign bodies in the lip making them impossible to palpate.

Degloving

The stripped or 'degloved' mucoperiosteal flap should be tightly sutured. Additionally, if the lower arch is involved a pressure dressing should be applied to avoid pooling of blood, submental swelling and possible airway embarrassment. Interdental sutures are important in cases of gingival degloving because the close re-adaptation of tissues to the tooth surface helps preserve alveolar bone and keeps the teeth in position *(Cameron et al, 2003)*.

Conculsion

The acute management of traumatic dental injuries and their future prognoses are greatly influenced by the type and severity of injury, the environment in which the injury was sustained, the immediate management provided at the scene, and other patient factors such as stage of root development.

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ANZSPD – Branch news 2007

Western Australia

The W.A. Branch held its Annual General Meeting and Dinner on 15th December 2006 at the University Club, which is located on the campus of the University of Western Australia. The A.G.M. preceded the Dinner. At that meeting, the following Office Bearers were elected.

President

Dr Tim Johnston

Vice President

Dr Kate Dyson

Secretary-Treasurer

Dr Alistair Devlin

Federal Councillor

Dr John Winters

Committee

Drs John Camacho, Mark Foster, Peter Gregory, Theo Gotjamanos, Carmel Lloyd, Peter Readman, Vanessa William

The Program for 2007 was discussed. Obviously, the preoccupation for the initial part of the year was going to be the Federal Convention in Broome. For the remainder of the year, the usual Mid-winter meeting would be held, probably at the Bunker Bay Resort in the south west of the state and probably in late August. The Annual General Meeting and Dinner was planned for 23 November 2007.

A sumptuous dinner was then enjoyed by members and their partners. This was followed by a most entertaining and humorous after dinner presentation by the Guest of Honour, Dr Sally Hibbert. As Sally had travelled to Perth from Sydney to see action in the Third Cricket Test between Australia and her beloved England, her chosen subject: "Confessions of an English Sporting Tragic" was most appropriate. Even at that stage of the game, the writing was on the wall regarding the result of the Test, but Sally's spirit was indomitable, and those present were treated to an extremely entertaining look at why this spirit is unyielding. All present agreed it was difficult to find an explanation for this undying devotion of the English sporting follower, except to say that on those rare occasions success is tasted, it is oh so much sweeter!

Alistair Devlin

New Zealand

The New Zealand branch would like to thank Nina Vasan for her enthusiastic and capable leadership as branch president over the last two years and is pleased to announce that Katie Ayers has now taken over this position for 2007.

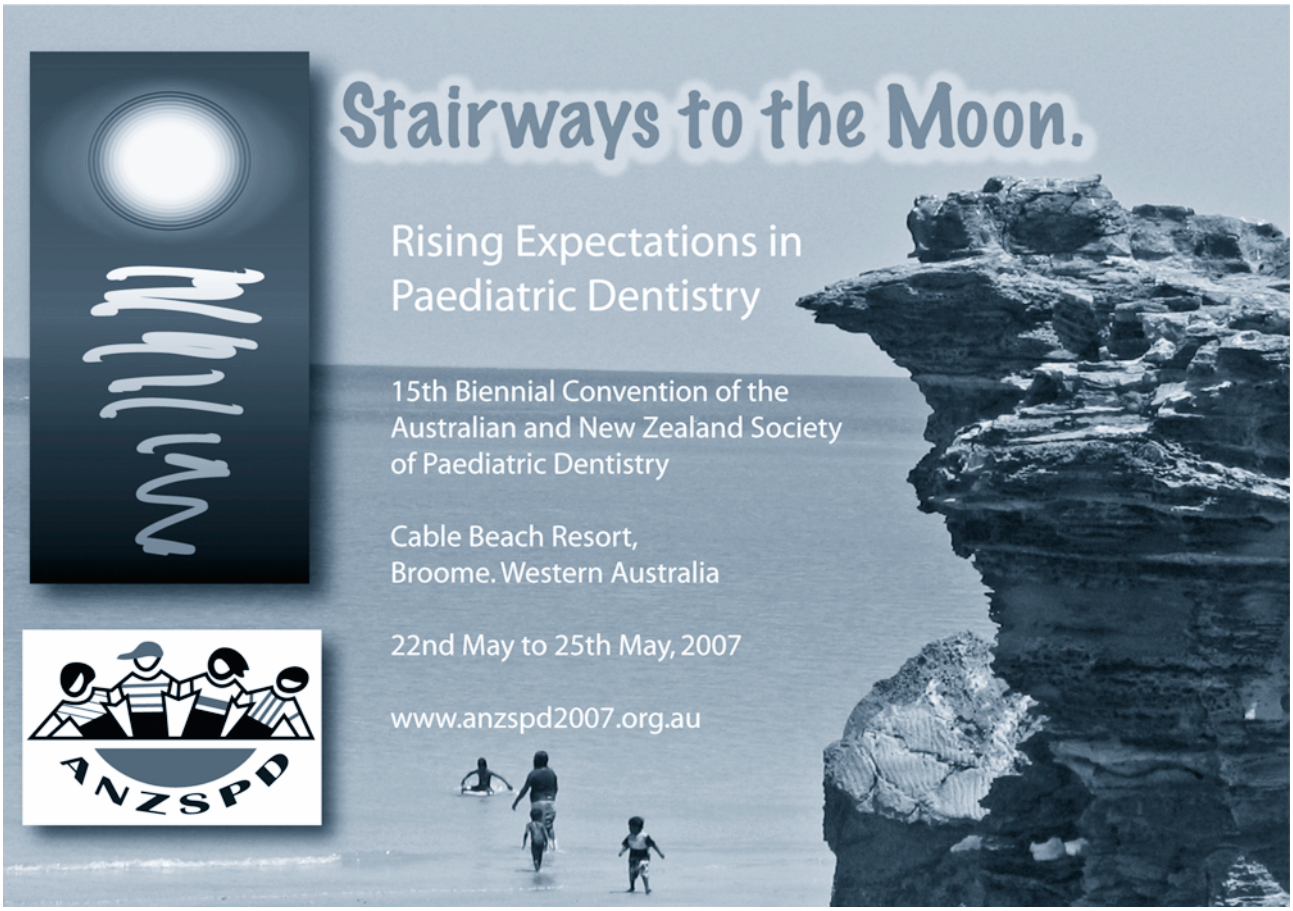
We are very sorry to be farewelling Callum Durward who is moving to Cambodia in March. Callum is a Paediatric Dentist with a strong interest in dental public health. Following a period at the School of Dentistry in Dunedin, Callum has been based in Auckland for the last eight years. He has been providing paediatric dental services at three Auckland hospitals, in addition to teaching oral health therapy students at AUT University. Over the past 24 years Callum has worked as a volunteer dentist in parts of Asia including in refugee camps in Thailand, Malaysia and Cambodia. Currently he is part of a team of Australian and New Zealand dentists teaching paediatric dentistry at the Faculty of Odontostomatology in Phnom Penh.

Callum – we have all appreciated your willing participation in ANZSPD, your gentle voice and thoughtful ways. You will be missed by your colleagues here in New Zealand, but we want to wish you all the very best in your future in Cambodia.

On a brighter note we are pleased to welcome Erin Mahoney to Wellington where she is working part time at the Hutt Hospital and continuing to undertake her biomaterials research. Bad luck Aussies… we managed to entice Erin, Rodd, Finn and 'bump' back to NZ! Congratulations also to Yaso who has successfully completed her Masters degree and is currently dividing her working hours between the public hospitals and specialist practice in Auckland.

Dorothy Boyd & Katie Ayers

Broome 2007



Did you know Broome's other industries include mining. Argyle Diamond mine which began operation in 1983 is producing about one third of the world's diamonds. These may not be the ones on the end of your high speed but it acts as a good intro. This is a friendly reminder that you really do want to join us in Broome in May for a wonderful and thought provoking Convention and to spend a very enjoyable time with Colleagues and Family "away from it all".

Stepping away from the norm, we are holding our Convention outside a major city and away from the one major presenter. Instead, we have invited some of Australia and New Zealand's known and maybe little known clinicians, researchers and teachers, as well as an unsung hero or two to share their knowledge and experience and hopefully to challenge us to consider what we do each day. Our topics reflect our title, the application of the rising clinical sophistication in oral health care provided to Australasia's diverse social and geographically varied communities.

Now back to 'Tradition', our Social program is bigger than ever. As Broome is a long way from anywhere, we hope each of you will bring your family to enjoy a wonderful week. Beach tours, mud crab hunting and tours of local Pearl Farms are not to be missed. Often the delegates miss these events so for Broome, we have moulded the social program around the scientific program. The social programme finishes with 'The Big Feed" followed by dancing to the Pigram Brothers, ARIA nominated and the subject of an excellent ABC documentary. www.pigrambrothers.com.au

Come join us in Broome!

Further information can be found in the Registration Brochure you have received, or at www.anzspd2007.org.au

Tim Johnston

ps I did mention the pearl shopping didn't I ?

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Brushes that GROW with children

- Available in three distinct designs for children of all ages.
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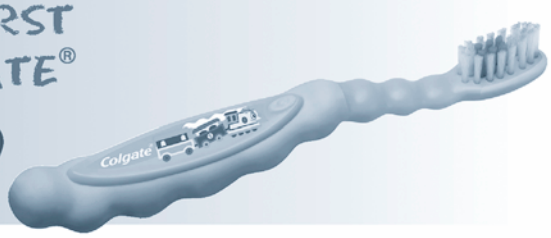
ages 0-2



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[1] WS Driscall et al, JADA, 1982; 105, 1010-13.

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Colgate® Corner

by Barbara Shearer
Colgate Professional
Relations Manager

Colgate Chair of Population Oral Health

It is with great pleasure that we are able to announce that Mike Morgan has been appointed to the Colgate Chair of Population Oral Health at The University of Melbourne, School of Dental Science.

The responsibility of the Colgate Chair of Population Oral Health is to provide leadership at the state and national level in the field of Population Oral Health research and education. It is expected that in this position, Professor Morgan will act to strengthen the interactions between the university and government, non-government and professional organisations. He will provide vision and leadership to the professional community and to research colleagues, while working to identify and develop strategies to influence the national direction of Population Oral Health research.

Professor Morgan is highly regarded by all who know him and has made an outstanding contribution to dentistry and dental education. His achievements are impressive and in his new role as the Colgate Professor of Population Oral Health, his current role as Deputy Head of the School of Dental Science at this University and his activities within the Cooperative Research Centre for Oral Health Science (CRC), he will continue to provide excellent leadership.

Up-coming Events

We are all busy at Colgate right now, working towards the biennial ADA conference to be held in Sydney, 16-19 March. If you travel to Sydney for the congress, be sure to visit the Colgate stand to see and hear about a number of great new Colgate products.

Of course one of the highlights of 2007 will be the ANZSPD 15th Biennial Convention in Broome, 22-25 May 2007. Colgate is delighted to be acting as Principal Sponsor for this meeting "Stairways to the Moon", Rising Expectations in Paediatric Dentistry. Your organising committee is working hard to produce a memorable scientific and social program, in a fantastic location.

10 Years of *Bright Smiles Bright Futures*

2007 marks the 10th anniversary of Colgate's Bright Smiles Bright Futures oral health education programme in Australia. Over those years, more than two million children have been reached. We are planning celebrations for 2007 which include the introduction of Dr Rabbit's colleague, Dr Brushwell. Dr Rabbit and Dr Brushwell suits will be available for oral health sessions by phoning a toll free number 1800 075 685.

Bright Smiles Bright Futures Fundraiser

In response to concerns over increasing levels of tooth decay and obesity in our children, Colgate has launched the Bright Smiles Bright Futures Fundraiser. The BSBF Fundraiser provides a healthy fundraising option for schools by selling Colgate toothbrush and toothpaste packs to families and friends. Pilot fundraisers were held during 2005 and 2006 with extremely positive feedback. Letters will be sent to schools during February, advising of the Fundraiser and how to be involved. Why not encourage your schools to participate? For more information call the toll free number 1800 891 355.

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Colgate Territory Managers are here to assist you with the products you need in your surgeries.

Contact details:
Barbara Shearer
Professional Relations Manager
barbara_shearer@colpal.com
(02) 9229 5737

Coming events

22-25 May 2007
ANZSPD Federal Convention

Cable Beach Club Resort
Broome, Western Australia

20-23 September 2007
Cleft and Cranio-Maxillofacial Anomalies

Melbourne, Victoria, Australia
Email: cleft2007@meetingplanners.com.au
www.cleft2007.com.au

14-18 May 2007
Evidence-Based Dentistry Course

Oxford University, England
Email: cpdhealth@conted.ox.ac.uk
www.conted.ox.ac.uk/health

24-28th May 2007
60th AAPD Annual Session

Henry B Gonzalez Convention Centre
San Antonio, Texas

14-17 June 2007
21st IAPD International Congress

Hong Kong Convention and Exhibition Centre
www/iapd2007.com/

16-20 June 2009
22nd IAPD International Congress

International Congress Centre
Munich, Germany

11-14 September 2007
BSPD Annual Scientific Meeting

Savoy Place, London

29 May-1 June 2008
9th EAPD Congress

Dubrovnik, Croatia

Austalian and New Zealand Society of Paediatric Dentistry

www.anzspd.org.au

Federal President

Dr John Winters
Chairman, Dental Department
Princess Margaret Hospital
Roberts Road
Subiaco WA 6008
email: john.winters@kidsdentist.com.au

Federal Secretary Manager

Dr Alistair Devlin
57 Burroughs Road
KARRINYUP WA 6018
email: devlins@iinet.net.au

Branch Executives

Branch	President	Secretary	Fed Councillor
NSW	Dr Phillipa Sawyer phillipa.sawyer@ toothdoctor.net.au	Dr Juliette Scott Juliette.Scott@ toothdoctor.net.au	Dr Kareen Mekertichian
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NZ	Dr Katie Ayers	Dr Mary Anne Costelloe maryannecos@xtra.co.nz	Dr Nina Vasan

Editor Synopses

Dr Dorothy Boyd
dorothy.boyd@phsouth.co.nz

Correspondence

Dorothy Boyd
The Editor, Synopses
57 Hanover Street
PO Box 5144
DUNEDIN, NEW ZEALAND

Printing and distribution

Colgate®
Colgate Oral Care
Level 15, 345 George Street
Sydney NSW 2000
AUSTRALIA

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Submissions

All text for inclusion in Synopses must be submitted to the editor on floppy disk, zip disk, CD, or by email. Both PC and Mac formats are accepted. Media will not be returned. Address email to dorothy.boyd@phsouth.co.nz. Please enclose your contact details and email address with all submissions.

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